



IWBLCM 2023

**3rd International Workshop on
Biorefinery of Lignocellulosic Materials**
12-15 September 2023
Córdoba, Spain

SCIENTIFIC PROGRAMME

Tuesday 12th Rectorate, University of Córdoba

19:00 – 20:00 Registration

20:00 – 21:00 Inaugural Conference

Gender Equality in Science for a Sustainable Energy Transition

Sara Pinzi

Vice Chancellor for Equality, Inclusion and Social Engagement at
the Universidad de Córdoba

21:00 – 23:30 Welcome cocktail

WIFI

Username → iwblcm2023

Password → 2023iwblcm

Wednesday 13th
 Rectorate, University of
 Córdoba

SCIENTIFIC PROGRAMME

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SESSION 1 Chairwoman Ana Balea	
8:30–9:15	Plenary Lecturer → Dr Carla Vilela CICECO – Aveiro Institute of Materials, University of Aveiro, Portugal <i>Cellulose-based materials as advanced tools for water remediation</i>
9:20–9:35	STABILIZATION OF BEESWAX-IN-WATER DISPERSIONS WITH ANIONIC CELLULOSE NANOFIBERS AND THEIR USE FOR PAPER COATING Bayés, G. Planella, J., Aguado, R., Tarrés, Q., Mazega, A., Delgado-Aguilar, M
9:35–9:50	FROM WASTE TO RESOURCE: ORANGE PEELS AS BIOREFINERY FEEDSTOCK FOR POLYPHENOLS AND NANOCELLULOSE-BASED FOOD PACKAGING Esther Rincón, Eduardo Espinosa, Ramón Morcillo-Martín, Laura Rabasco-Vílchez, Alejandro Rodríguez
9:50–10:05	INTERPRETING THE POWDER DIFFRACTION PATTERN OF CELLULOSE I WITH A RIETVELD PROGRAM Alfred D. French, Jacobs Jordan
10:05–10:20	USE OF EXTRACTED FRACTIONS FOR THE MANUFACTURE OF PHOTOACTIVE NANOCELLULOSE-BASED AEROGELS USING C,N-TiO ₂ OBTAINED FROM MODIFIED LIGNIN Remedios Montenegro, Alejandro Rodríguez, Zoilo González
10:20–10:35	ENHANCING FIBER/PARTICLE-BOARDS WITHOUT PHENOLIC RESINS USING MALEIC ACID-TREATED LIGNOCELLULOSIC NANOFIBERS A. Najahi, R. Aguado, M. Delgado-Aguilar, S. Boufi and Q. Tarrés
10:35–10:50	OBTAINING FUNCTIONAL PHOSPHOROUS LIGNINS FOR INCORPORATION INTO POLYMERS FOR APPLICATION IN WOOD Maddalen Puyadena, Miriam Kellock, Tom Wirtanen, Idoia Etxeberria, Loli Martin, Amaia Agirre, Petri Widsten, Alba Gonzalez, Aitor Barrio, Lourdes Irusta
10:50–11:40	Coffe Break Poster Session 1 (see below) 18 / 21 / 29 / 37 / 38 / 46 / 52 / 53 / 70
SESSION 2 Chairman Marc Delgado	
11:45–12:00	L-LACTIC ACID PRODUCTION BY BACILLUS COAGULANS DSM 2314 FROM EUCALYPTUS HEMICELLULOSIC LIQUOR Alberto Liguori, Eugenia Vila, Laura Camesasca, Florencia Cebreiros, Mairan Guigou, María-Noel Cabrera, Mario Daniel Ferrari, Claudia Lareo
12:00–12:15	VALORIZATION OF AVOCADO (<i>Persea americana</i>) LEAVES THROUGH THE CHARACTERIZATION OF THEIR BIOACTIVE COMPOUNDS AND BIOPROTECTIVE MICROORGANISMS Andrea Lucena, Eduardo Espinosa, Alejandro Rodríguez and Fernando Pérez-Rodríguez
12:15–12:30	RECOVERY OF LIGNIN AND CELLULOSE FROM RICE STRAW USING SUSTAINABLE METHODS AND THEIR INCORPORATION INTO BIOPOLYMERIC MATERIALS H. Pérez, V.M. Serrano, M. P. Carbonell, F. Arán, E. Orgilés
12:30–12:45	PRINTABILITY AND CELL VIABILITY IN 3D BIOPRINTING OF FUNCTIONALIZED CELLULOSE-BASED HYDROGELS Elena Usala, Zoilo Gonzalez, Alejandro Rodríguez, Eduardo Espinosa
12:45–13:00	USING OF TRICHODERMA AND ASPERGILLUS FOR BIOLOGICAL PRETREATMENT OF SARGASSUM BIOMASS IN A BIOREFINERY FRAMEWORK Cristina Agabo-García, Muhammad Nur Cahyanto, Ana Blandino, Carlos J. Álvarez-Gallego
13:00–14:45	Lunch

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14:45–15:20	Poster Session 2 (see below) 10 / 15 / 23 / 34 / 41 / 44 / 47 / 55 / 66 / 87 / 89
	SESSION 3 Chairman Quim Tarrés
15:30–16:15	Plenary Lecturer → Dr Orlando Rojas Departments of Chemical and Biological Engineering, Wood Science and Chemistry, University of British Columbia, Canada <i>Cellulose gelation and dissolution in bioproduct development</i>
16:20–16:35	SYNTHESIS OF CATIONIC LIGNIN DERIVATIVES FOR HAIR CARE APPLICATIONS Catarina Fernandes , Bruno Medronho, Luís Alves, Graça Rasteiro, Carla Varela
16:35–16:50	AVOCADO PRUNING RESIDUE-DERIVED LIGNOCELLULOSE FIBERS: REINFORCING PERFORMANCE IN BIOPE MATRIX FOR FOOD PACKAGING - A MICROMECHANICAL STUDY Ramón Morcillo-Martín , Quim Tarrés, Eduardo Espinosa, Sergio Carrasco, Alejandro Rodríguez
16:50–17:05	ENHANCING STRENGTH AND FLEXIBILITY OF MICROFIBRILLATED CELLULOSE FILMS FROM LIGNIN-RICH SOFTWOOD KRAFT PULP Huisi Lia , Artem Kulachenko, Aji P. Mathew, Raquel Bohn Stoltz, Olena Sevastyanova
17:05–17:20	THE REINFORCING ABILITY OF KRAFT PULP FIBRES AND THE CORRESPONDING CELLULOSE NANOFIBRILS IN HIGH- AND LOW-DENSITY POLYETHYLENE Sandra Rodríguez-Fabià , Chiara Zarna, Gary Chinga-Carrasco
17:20–17:35	INTEGRATED TECHNO-ECONOMIC AND ENVIRONMENTAL ASSESSMENT OF BIOREFINERIES: REVIEW AND FUTURE RESEARCH DIRECTIONS Deborah Pérez Almada , Ángel Galán-Martín, María del Mar Contreras, Eulogio Castro
17:35–17:50	ECOFRIENDLY EXTRACTION OF PHENOLIC COMPOUNDS FROM GALICIAN HOP LEAVES USING DEEP EUTECTIC SOLVENTS Fernando R. Rebelo , Beatriz Rodríguez-Martínez, Alexandre Rubira, Pablo G. del Río, Alba Pérez-Pérez, Álvaro Lobato-Rodríguez, Pedro Ferreira Santos, Aloia Romani, Beatriz Gullón, Gil Garrote
17:50–18:05	EXPLORING AGRI-FOOD RESIDUES AS SOURCE OF BIO-PROTECTIVE MICROORGANISMS FOR CIRCULAR APPLICATION IN VEGETABLE PRODUCTS: AN EXAMPLE OF STRAWBERRY AND TOMATO Laura Rabasco-Vílchez , Araceli Bolívar, Ramón Morcillo-Martín, Fernando Pérez-Rodríguez



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SOCIAL PROGRAMME

19:00-... Visit to "Los Patios"*

21:00 Cordoba City Hall Reception at "Caballerizas Reales"

Meeting point → Rectorate

*To be confirmed

Thursday 14th

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SESSION 4 Miguel Pereira	
8:30–9:15	<p>Plenary Lecturer → Dr Kristin Syverud RISE PFI and part time professor at NTNU <i>Application of nanocellulose dispersions in industrial fluids, foodstuffs, and the medical field</i></p>
9:20–9:35	<p><i>IN-SITU</i> SYNTHESIS AND IMMOBILIZATION OF SILVER NANOPARTICLES ONTO NANOCELLULOSE FOR ANTIMICROBIAL PAPER Mohamed Aouay, Roberto J. Aguado, Quim Tarrés, Genís Bayés, Núria Fio, Jean-Luc Putaux, Sami Boufi, Marc Delgado-Aguilar</p>
9:35–9:50	<p>SACCHARIFICATION POTENTIAL OF TRANSGENIC ASPENS GROWN IN GREENHOUSE AND IN FIELD TRIALS Madhavi Latha Gandla, Ewa J. Mellerowicz, Hannele Tuominen and Leif J. Jönsson</p>
9:50–10:05	<p>SUSTAINABLE SOLUTIONS FOR OUTERMOST REGIONS: CIRCULAR ECONOMY AND WASTE UTILIZATION THROUGH COMPOSITE MATERIALS FROM PLASTIC AND AGRICULTURAL WASTES F.J. Alonso-Montemayor, R. Aguado, M. Delgado-Aguilar, F.X. Espinach and Q. Tarrés</p>
10:05–10:20	<p>SYNTHESIS, CHARACTERIZATION AND APPLICATION OF DIFFERENT NANOCELLULOSIC MATERIALS AS METAL ADSORBENTS FROM WASTEWATERS B. Ojembarrena, A. Blanco, N. Merayo and C. Negro</p>
10:20–10:35	<p>BACTERIAL NANOCELLULOSE-BASED EDIBLE COATING FOR FOOD PRESERVATION: DESIGN AND APPLICATION Peña-Ortiz, M., Serrano, L., Patricia Marín, S., Martirani-VonAbercron, S. Marqués García, A.</p>
10:35–10:50	<p>PILOT SCALE PRODUCTION OF FIBER-BASED TRAYS FROM HORTICULTURAL RESIDUES AS SUSTAINABLE READY-TO-EAT FOOD PACKAGING Sergio Carrasco, Esther Rincón, Eduardo Espinosa, Ramón Morcillo-Martín, Andrea Lucena, Alejandro Rodríguez</p>
10:50–11:40	<p>Coffe Break Poster Session 3 (see below) 11 / 25 / 28 / 35 / 40 / 50 / 56 / 58 / 73 / 93</p>
SESSION 5 María Eugenia Eugenio	
11:45–12:00	<p>Extraction of bioactive compounds and saccharification of polysaccharides for valorization of spent mushroom substrate following a biorefinery approach Sarah J. Klausen, Anne Bergljot Falck-Ytter, Knut Olav Strætkvern, Carlos Martin</p>
12:00–12:15	<p>ORANGE-PEELS VALORIZED AS SOURCE OF BACTERIAL CELLULOSE Eugenia Vargas, Gema Frutos, Isabel Carrillo, Antonio Gascó, Daphne Hermosilla, Noemi Merayo</p>
12:15–12:30	<p>ENZYME-MEDIATED PRETREATMENT OF EUCALYPTUS PULP TO PRODUCE CELLULOSE NANOFIBERS Florencia Cebreiros, Gustavo A. Sánchez, Claudia Lareo</p>
12:30–12:45	<p>NANOCELLULOSE-SEPIOLITE HYBRID NANOCOMPOSITE FILMS: INFLUENCE OF THE TYPE OF NANOCELLULOSE AND THE SEPIOLITE CONTENT Raquel Martín-Sampedro, María E. Eugenio, David Ibarra, Eduardo Ruiz-Hitzky, Pilar Aranda, Margarita Darder</p>
12:45–13:00	<p>OBTAINING HIGH QUALITY NANOFIBRILLATED CELLULOSE FROM WASTE PAPER A. Balea, M.C. Monte, E. Fuente, M. Delgado-Aguilar, Q. Tarrés, M.A. Pélach, A. Blanco, C. Negro</p>
13:00–13:15	<p>STUDY OF ENZYME-ASSISTED METHODS APPLIED TO OLEAGINOUS YEASTS FOR LIPID EXTRACTION. C. Álvarez, M. Gallego-García, A. Rodríguez-López, M.J. Negro</p>
13:15–13:30	<p>FROM KRAFT LIGNIN WASTE TO ELECTROSPUN NANOSTRUCTURES: INFLUENCE OF CHEMICAL STRUCTURE AND COMPOSITION Luisa García-Fuentevilla, José F. Rubio-Valle, Raquel Martín-Sampedro, Concepción Valencia, María E. Eugenio, David Ibarra</p>
13:30–15:00	<p>Lunch</p>

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15:00–15:55	<p>Poster Session 4 (see below) 16 / 17 / 24 / 31 / 36 / 42 / 62 / 68 / 74 / 83 / 84</p> <p>SESSION 6 Zoilo González</p>
16:00–16:45	<p>Plenary Lecturer → Dr Carlos Martin Biomass and Bioresources Utilization at Inland Norway University of Applied Sciences (INN), and Visiting Professor at Umeå University, Sweden.</p> <p><i>Spent substrate from mushroom cultivation – potential of an unexplored feedstock for biorefinery exploitation</i></p>
16:50–17:05	<p>FTIR SPECTROSCOPY FOR ON-LINE CONTROL OF THE SYNTHESIS OF RECYCLABLE MAGNETIC TEMPO CATALYST Hongyu Xu, Ana Balea, Noemí Merayo, Ángeles Blanco, Carlos Negro</p>
17:05–17:20	<p>RELEVANCE OF NATURAL POLYELECTROLYTE COMPLEX DOSAGES ON THE MECHANISM OF MICRO/NANOCELLULOSE FLOCCULATION Bastida, Gabriela; Galván, María Verónica; Delgado-Aguilar Marc; Aguado Roberto; Zanuttini, Miguel Ángel; Tarrés, Quim</p>
17:20–17:35	<p>XYLOSACHARIDES PURIFICATION FROM EUCALYPTUS RESIDUES FOR THE PRODUCTION OF LACTIC ACID María-Noel Cabrera, Constanza D'Andrada, Alberto Liguori, Santiago Moure, Juan Martín Rodao, Eugenia Vila, Florencia Cebreiros, Mairan Guigou, M. Daniel Ferrari, Claudia Lareo</p>
17:35–17:50	<p>IMPACT OF LIGNIN SOURCE ON THE PERFORMANCE OF LIGNIN-BASED POLYURETHANE COATINGS IN WOOD PROTECTION Miriam Kellock, Petri Widsten, Marc Borrega, Maddalen Puyadena, Idoia Etxeberria, Ingemar Svensson, Aitor Barrio</p>



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SOCIAL PROGRAMME

19:00 → Visit to “Medina Azahara”
Meeting point → Rectorate

21:30 → Gala Dinner at “Los Jardines de Sansueña”

Friday 15th
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SESSION 7 Chairman Eduardo Espinosa	
8:30–9:15	Plenary Lecturer → Dr Juan Domínguez-Robles Ramón y Cajal fellowship at the University of Seville <i>The use of lignin for the development pharmaceutical and biomedical applications. Could this become a reality?</i>
9:20–9:35	PRODUCTION OF ASTAXANTHIN BY XANTHOPHYLLOMYCES DENDRORHOUS GROWING ON ENZYMATIC HYDROLYZATES OF STEAM EXPLODED EUCALYPTUS Rodríguez Camila , Vila Eugenia, Lareo Claudia
9:35–9:50	UNLOCKING THE POTENTIAL OF IONIC LIQUID ASSISTED FRACTIONATION OF GRAPEVINE SHOOTS FOR EFFICIENT FERMENTABLE SUGAR PRODUCTION AND LIGNIN RECOVERY Raquel Cañadas , Aleta Duque, Raquel Iglesias, Paloma Manzanares
9:50–10:05	SCREENING THE POTENTIAL OF VEGETABLE BYPRODUCTS FOR RECOVERY OF BIOACTIVE MOLECULES Pamela F. M. Pereira , Amparo Jiménez-Quero
10:05–10:20	COMPOSITE FILMS OF CHITOSAN AND NANOFIBRILATED CELLULOSE AS A FOOD PACKAGING MATERIAL Camilo Torres , Oscar Valerio, Miguel Pereira
10:20–10:35	AGRO-FOOD AND LIGNOCELLULOSIC URBAN WASTE AS SUGARS RICH SUBSTRATE FOR INTEGRATED OIL-BASED BIOREFINERIES Alberto Rodríguez-López , María Gallego-García, José Luis Fernández, Ignacio Ballesteros, Antonio D. Moreno, Raquel Iglesias, María José Negro
10:35–10:50	APPLYING THE BIOREFINERY CONCEPT TO "TEMPRANILLO" GRAPE STALKS: ANALYSIS OF BY-PRODUCT FRACTIONS AND BIOETHANOL PRODUCTION Cristian Herrera-Olivares, Andrea Lucena de Opazo, Eduardo Espinosa-Victor, Carlos Martín, Juan Moreno, Rewa Rai, Nitin Nitin, Minami Ogawa, Jaime Moreno-García
10:50–11:05	Coffe Break
SESSION 8 Chairwoman Noemí Merayo	
11:35–11:50	LIGNIN AND LIGNIN-DEGRADATION PRODUCTS IN PRETREATED BIOMASS AS REDUCTANTS IN LPMO-SUPPORTED SACCHARIFICATION OF CELLULOSE Chaojun Tang , Madhavi Latha Gandla, Leif J. Jönsson
11:50–12:05	COLLOIDAL PROCESSING OF NANOCELLULOSE-BASED MATERIALS INCORPORATING FUNCTIONAL NANOPARTICLES Z. González , E. Usala, R. Montenegro, S. Carrasco, Ramón Morcillo, I. Santos-Dueñas, I. García, E. Espinosa, A. Rodríguez
12:05–12:20	IMPROVING THE RECYCLABILITY OF AN EPOXY RESIN THROUGH THE ADDITION OF NEW BIOBASED VITRIMER Antonio Veloso-Fernández , Leire Ruiz Rubio, Isabel Moreno Benítez, José Manuel Laza, José Luis Vilas-Vilela
12:20–12:35	IMPROVEMENT THE DISPERSION OF CELLULOSE NANOPARTICLES IN POLYVINYL ALCOHOL COMPOSITE FILMS USING A CATIONIC DISPERSANT AGENT Valeria Liguempi , Luis F. Montoya, Alexandra Soto-Arriagada, Miguel Pereira
12:35–12:50	HYDROTHERMAL AND DEEP EUTECTIC SOLVENTS SYNERGY TO VALORIZE ROBINIA PSEUDOACACIA WOOD FOLLOWING A BIOREFINERY SCHEME Alba Pérez-Pérez, Pablo G. Del-Río , Álvaro Lobato-Rodríguez, Alexandre Rubira-Pérez, Gil Garrote
13:00–	Closing Ceremony Lunch

Poster Session 1 → Wednesday 13th 10:50 – 11:40

18. ADVANCING SUSTAINABLE PACKAGING SOLUTIONS THROUGH BIOPOLYMERS FOR A GREENER FUTURE
Eduardo Espinosa, Esther Rincón, Ramón Morcillo-Martín, Andrea Lucena, Alejandro Rodríguez

21. SUSTAINABLE PROCESSES TO VALORIZE OLIVE AGROINDUSTRIAL BIOMASS FOR MOVING TOWARDS A CIRCULAR BIO-ECONOMY
Carmen Padilla-Rascón, María del Mar Contreras, Ángel Galán-Martín, Eulogio Castro

29. FUNCTIONALISATION OF *ROBINIA PSEUDOACACIA* NANOCELLULOSE WITH PHENOLIC COMPOUNDS FOR ITS USE IN THE PACKAGING SECTOR
Luisa García-Fuentevilla, Raquel Martín-Sampedro, David Ibarra, María E. Eugenio

37. CHARACTERIZATION OF MWL OF SALIX SPP
Marta Río Rey, Sandra García-Garabal, Pablo Ligero, Alberto de Vega

38. EVALUATION OF PHA PRODUCTION FROM THE INVASIVE MACROALGA RUGULOPTERYX OKAMURAE.
Romero-Vargas, Agustín, Fdez-Güelfo, Luis Alberto, Blandino, Ana, Díaz, Ana Belén

46. CASCADE BIOREFINERY SCHEMES FOR AVOCADO SEED VALORIZATION BY DEEP EUTECTIC SOLVENTS AND MICROWAVE-ASSISTED AUTOHYDROLYSIS
Alexandra Del-Castillo-Llamosas, Pablo G. Del-Ríoa, Alba Pérez-Pérez, Beatriz Gullón

52. COMPATIBILITY STUDY OF CEMENT-BASED MATERIALS REINFORCED WITH VEGETABLE NANOFIBERS
María Pinillos, Antonio M. Ruz Luna, Mercedes Sánchez Moreno, Luis Serrano

53. OPTIMIZATION OF THE FRACCTIONATION OF AN AGROFORESTRY WASTE IN THE DIFFERENT LIGNOCELLULOSIC COMPONENTS AND ITS ENERGETIC VALORIZATION.
Lozano-Calvo, S., Almagro, N., Palma, A., García, J.C., García, M.T., Díaz, M.J.

70. EVALUATION OF TWO STRATEGIES FOR THE VALORIZATION OF HOP PRUNING
Alexandre Rubira, Raquel Rodríguez, Pablo del Río, Aloia Romaní, Beatriz Gullón

Poster Session 2 → Wednesday 13th 14:45 – 15:20

10. DETOXIFICATION OF STEAM-EXPLODED EUCALYPT BY GREEN SOLVENTS EXTRACTION TO ENHANCE THE ENZYMATIC HYDROLYSIS AND RECOVER BIOACTIVE COMPOUNDS
 Raquel Cañadas, Raquel Martín-Sampedro, María González-Miquel, Emilio J. González, María E. Eugenio, David Ibarra

15. CHARACTERIZATION OF "PAPA CHINA" FROM DIFFERENT PLANTATION TYPES, A POTENTIAL BIORESOURCE FOR BIOPLASTIC FORMULATION
 Vargas-García, Yadira; Romero-García, Juan Miguel; Contreras, María del Mar; Castro, Eulogio

23. VALORIZATION OF ALMOND SHELLS TO OBTAIN BIOENERGY AND
 BIOCOMPOUNDS
 Alba Reyes, Alfonso M. Vidal, Eulogio Castro, Inmaculada Romero

34. NMR KINETIC MONITORING OF DELIGNIFICATION. STRUCTURAL CHANGES OF SALIX SPP LIGNIN IN THE ACETOSOLV PROCESS
 Christian Sanluis, Pablo Ligeró, David Vázquez and Alberto de Vega

41. *ACACIA DEALBATA* VALORIZATION THROUGH MICROWAVE-ASSISTED AUTOHYDROLYSIS TO OBTAIN XYLOOLIGOSACCHARIDES AND BIOETHANOL
 Álvaro Lobato-Rodríguez, Alba Pérez-Pérez, Beatriz Gullón, Gil Garrote, Pablo G. del Río

44. FROM LIGNOCELLULOSIC RESIDUES TO BIOPOLYMERS – POLY(3-HYDROXYBUTYRATE) PRODUCTION FROM CELLULOSIC HYDROLYSATES OF QUINOA STALKS USING *HALOMONAS BOLIVIENSIS*
 Diego A. Miranda, Katherine Marína, Ola Sundman, Jenny Lundqvist, Jorge Quillaguamán, Luis Romero-Soto, Leif J. Jönsson, Cristhian Carrasco, Carlos Martín

47. BIOTECHNOLOGICAL PRODUCTION OF XYLITOL FROM AN AGRO-INDUSTRIAL WASTE.
 Emiliana Botto, Lucía Núñez, Rossina Castro, Agustina Vila, Mariela Risso, Wilson Sierra, Pilar Menéndez, Matias Cagno, Fernando Bonfiglio, Paula Rodríguez

55. FURFURAL PRODUCTION BY ACID HYDROLYSIS OF POPLAR CLONE AF2, ULMUS MINOR AND LEUCAENA L. IN TWO STAGES.
 María T. García, Rocío Rengel, Javier M. Loaliza, Susana Lozano, Sebastian F. López, J.C. García

66. PREBIOTIC ACTIVITY OF XYLOOLIGOSACCHARIDES (XOS) FROM EUCALYPTUS SAWDUST HYDROLIZATE
 Alberto Liguori, Eugenia Vila, Mairan Guigou, Santiago Moure, Laura Camesasca, Florencia Cebreiros, Florencia Risso, Claudia Lareo, Juan Martín Rodao, Leonardo Clavijo, María Noel Cabrera

87. EFFECT OF ALKALINE HYDROGEN PEROXIDE TREATMENT IN THE FRACTIONATION OF BANANA PSEUDO-STEAM WASTE TO OBTAIN CELLULOSE NANOFIBERS (CNF)
 Eduart A. Gutiérrez, Javier M. Loaliza, Sebastian F. López, Juan C. García, Alba N. Ardila, Cristian C. Villa

89. OPTIMIZATION AND COMPARISON OF CONVENTIONAL AND UNCONVENTIONAL EXTRACTION METHODS FOR PHENOLIC COMPOUNDS FROM *PINUS RADIATA* BARK
 Danilo Escobar-Avello, Tomás Oñate-Valdés, Víctor Ferrer, Martha Lyzzett Lozano, Jorge Santos, Luis E. Arteaga-Pérez, Cecilia Fuentealba, Gustavo Cabrera-Barjas

Poster Session 3 → Thursday 14th 10:50 – 11:40

- 11.** PHENOLIC ACIDS FROM THE LEAVES OF JERUSALEM ARTICHOKE (*HELIANTHUS TUBEROSUS* L.): EFFECT OF DRYING, INTENSIFICATION, AND SOLVENT SYSTEM ON YIELD AND ANTIOXIDANT ACTIVITY
Jyoti Chhetri, Anne Bergljot Falck-Ytter and Knut Olav Strætkvern
- 25.** ENHANCING HYDROPHOBICITY OF NANOCELLULOSE PARTICLES THROUGH AKD ESTERIFICATION
Ana Balea, Elena de la Fuente, Ángeles Blanco and Carlos Negro
- 28.** FORMULATION OF FILMS USING CELLULOSE FROM AN ORGANOSOLV PRETREATMENT OF *PINUS RADIATA*
Hopson, C., Horgos, B., Rigual, V., Martin-Sampedro, R., Ibarra, D., Eugenio, M.E., Alonso, M. V., Oliet, M., Rodríguez, F.
- 35.** STUDY AND OPTIMIZATION OF DEEP EUTECTIC SOLVENT PROCESS AS EFFICIENT LIGNIN-OBTAIN PROCESS FROM BETULA
Ligero, Pablo, García-Garabal, S., Vázquez, D., Abad, M.J., Vega, A
- 40.** IMPROVING THE USE OF AGRO-INDUSTRIAL BY-PRODUCTS FOR THE DEVELOPMENT OF BIOFILMS
Arroyo Esquivel, Laura
- 50.** INTEGRATED HYDROTHERMAL AND DEEP EUTECTIC SOLVENT PRETREATMENT FOR *ACACIA DEALBATA* FRACTIONATION
Álvaro Lobato-Rodríguez, Alba Pérez-Pérez, Beatriz Rodríguez-Martínez, Fernando R. Rebelo, Beatriz Gullón, Pablo G. del Río, Aloia Romaní, Gil Garrote
- 56.** IMPROVEMENT OF SACCHARIFICATION OF WINERY BYPRODUCTS BY STEAM EXPLOSION TREATMENT
Alexandre Rubira, Beatriz Gullón, Pedro Ferreira, Pablo del Río, Gil Garrote, Aloia Romaní
- 58.** IMPROVING THE BARRIER PROPERTIES OF CELLULOSE BY NATURAL COATINGS
Antonio Veloso-Fernández, Leyre Pérez Álvarez, Catarina Lopes, José Manuel Laza, José Luis Vilas-Vilela
- 73.** CHEMICAL PRECURSORS FROM AGROFORESTRY BIOMASS TO OBTAIN BIODIESEL IN A CIRCULAR ECONOMY FRAMEWORK
Loaiza J.M, Palma A, García M.T, Valenzuela A, López F, García J.C.
- 93.** SELECTIVE FRACTIONATION OF OLIVE TREE PRUNINGS AND PLATFORM CHEMICALS MANUFACTURE FROM THE SACCHARIDE CONSTITUENTS
Sandra Rivas, Sonia Iglesias, Marcos Fernández, Juan Carlos Parajó



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16. SYNTHETIZING LIGNIN NANOPARTICLES FROM ORGANOSOLV AND IONOSOLV LIQUORS BY COMBINATIONS OF SONICATION AND ANTISOLVENT METHODS

Antonio Ovejero-Pérez, Beatriz García-Sánchez, Victoria Rigual, Juan C. Domínguez,
M. Virginia Alonso, Mercedes Oliet, Francisco Rodríguez

17. INFLUENCE OF THE PROTIC IONIC LIQUIDS AND ANTISOLVENTS ON THE PROPERTIES OF LIGNIN EXTRACTED FROM AUTOHYDROLIZED EUCALYPTUS WOOD

Beatriz García-Sánchez, Antonio Ovejero-Pérez, Victoria Rigual, Juan C. Domínguez, M. Virginia Alonso, Mercedes Oliet, Francisco Rodríguez

**24. FRACTIONATION OF VINE SHOOTS BASED ON GLYCEROL ORGANOSOLV
PRETREATMENT**

Diego Cardoza, María del Mar Contreras, Inmaculada Romero, Eulogio Castro

31. ANAEROBIC DIGESTION OF PAPER SLUDGE AND CO-DIGESTION OF PAPER-SEWAGE SLUDGE

María J. San José, Sonia Alvarez, Raquel López

36. BIOACTIVE COMPONENTS OF THE LEAVES OF *CASTANEA* SPP

Federica A. Souto, Silvia Viña, Sandra García-Garabal, Pablo Ligeró, Alberto de Vega

42. INFLUENCE OF PHYSICAL AND CHEMICAL PROPERTIES OF FIBERS ON THE CHARACTERISTICS OF LCNFs

Gregory Albornoz-Palma, Sergio Henríquez-Gallegos, Amparo Ribes, Miguel Pereira

62. MEMBRANES AS A QUICK, EFFECTIVE, AND LOW-COST ALTERNATIVE TO DETECT AND CAPTURE TOXIC SUBSTANCES AND HEAVY METALS

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68. COMPARISON OF THE DELIGNIFICATION OF PAULOWNIA WOOD FOR TWO DIFFERENT STAGES OF ITS TREATMENT USING DEEP EUTECTIC SOLVENTS

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74. ACACIA WOOD FRACTIONATION: TAILORING TERNARY DEEP EUTECTIC SOLVENTS TO IMPROVE LIGNIN EXTRACTION

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83. ZEIN/GLYCEROL THERMOPLASTIC COMPOSITES REINFORCED WITH BANANA RACHIS LIGNOCELLULOSIC NANOFIBERS.

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84. PRODUCTION OF VOLATILE FATTY ACIDS AND BIOHYDROGEN FROM THE INVASIVE MACROALGA *R. OKAMURAE* PRETREATED BY ULTRASOUND

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